

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Peter Joseph Cassidy et al.  
Title: PEPTIDE TURN MIMETICS

Docket No.: 707.025US1  
Filed: February 6, 2001  
Examiner: Christopher M. Gross

Serial No.: 09/647,054  
Due Date: N/A  
Group Art Unit: 1639

**MS Amendment**


Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

We are transmitting herewith the following attached items (as indicated with an "X"):

X Corrective Claim Set (8 pgs.).

If not provided for in a separate paper filed herewith, Please consider this a PETITION FOR EXTENSION OF TIME for sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.


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Customer Number 21186

By:   
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PATRICIA A. HULTMAN

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Name

  
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Signature

SCHWEGMAN, LUNDBERG & WOESSNER, P.A.

(GENERAL)

**S/N 09/647,054**

**PATENT**

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**CORRECTIVE CLAIM SET**

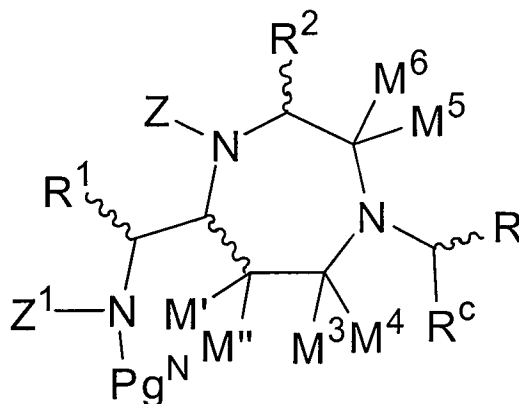
Commissioner for Patents  
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Alexandria, VA 22313-1450

The claim set in the Amendment and Response Under 37 CFR 1.116, filed with the United States Patent and Trademark Office on January 21, 2008, had obvious typographical errors. Applicant has attached a corrected claim set for the Examiner's review.

IN THE CLAIMS

1-112. (Canceled)

113. (Previously Presented) A general mimetic of the structure



wherein:

~~~~~ indicates a bond at a chiral centre of the structure which centre may be in the R or S configuration or a mixture thereof;

R, R<sup>1</sup> and R<sup>2</sup> are amino acid side chain groups which may be the same or different;

M' and M'' may be the same or different and are selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>4</sub> alkyl, chloro and C<sub>1</sub>-C<sub>4</sub> alkoxy;

M<sup>3</sup>, M<sup>4</sup>, M<sup>5</sup> and M<sup>6</sup> define a lactam as follows:

(i) M<sup>3</sup>, M<sup>4</sup> when taken together with the ring carbon to which they are attached form a carbonyl group, M<sup>5</sup> and M<sup>6</sup> = H, or

(ii) M<sup>3</sup> is H and M<sup>4</sup> = M', M<sup>5</sup> and M<sup>6</sup> when taken together with the carbon atom to which they are attached form a carbonyl group;

Z' is selected from the group consisting of hydrogen or methyl or part of a cyclic amino acid sidechain joined to R<sup>1</sup>;

Pg<sup>N</sup> is a protecting group for amine;

R<sup>C</sup> is selected from the group consisting of a carboxy terminal part of the mimetic, hydrogen, R, and CH<sub>2</sub>R; and

Z is selected from the group consisting of hydrogen, methyl, ethyl, formyl, acetyl, -CH<sub>2</sub>R, and C(O)R.

114. (Withdrawn) A peptide mimetic as claimed in claim 113 wherein when Q<sup>1</sup> and Q<sup>2</sup> form a cyclic group Q<sup>1</sup>Q<sup>2</sup> which is selected from the group consisting of -CH(R)C(O)-, -CH<sub>2</sub>CH(R)C(O)-, -CH<sub>2</sub>CH<sub>2</sub>CH(R)C(O)-, -CH(R)CH<sub>2</sub>-, -CH<sub>2</sub>CH(R)CH<sub>2</sub>-, -CH<sub>2</sub>CH<sub>2</sub>CH(R)CH<sub>2</sub>-, -CH<sub>2</sub>CH(R)-, -CH<sub>2</sub>CH<sub>2</sub>CH(R)-, -CH(R)CH<sub>2</sub>CH<sub>2</sub>-, -CH<sub>2</sub>CH(R)CH<sub>2</sub>CH<sub>2</sub>-, -CH(R)CH<sub>2</sub>C(O)- and -CH<sub>2</sub>CH(R)CH<sub>2</sub>C(O)-.

115. (Withdrawn) A peptide mimetic as claimed in Claim 113 wherein Q<sup>1</sup> is R, Q<sup>2</sup> is Z, Q<sup>3</sup> is C(O) or CH<sub>2</sub>.

116. (Withdrawn) A peptide mimetic as claimed in Claim 113 wherein Q<sup>1</sup> is R, Q<sup>2</sup> is Z, Q<sup>3</sup> is -C(O)N(Q<sup>5</sup>)CH(R)C(O)- or -C(O)N(Q<sup>5</sup>)CH(R)CH<sub>2</sub>-.

117. (Withdrawn) A peptide mimetic as claimed in Claim 113 wherein Q<sup>1</sup> is CH(R)C(O)Q<sup>2</sup>, Q<sup>1</sup>Q<sup>2</sup> - forms a cyclic group -CH(R)C(O)-Q<sup>2</sup>, Q<sup>3</sup> is C(O) or CH<sub>2</sub>.

118. (Withdrawn) A peptide mimetic as claimed in Claim 113 wherein Q<sup>1</sup> is CH<sub>2</sub>CH(R)C(O)Q<sup>2</sup>, Q<sup>1</sup>Q<sup>2</sup> - forms a cyclic group -CH<sub>2</sub>CH(R)C(O)-, Q<sup>3</sup> is C(O) or CH<sub>2</sub>.

119. (Previously Presented) A peptide mimetic as claimed in Claim 113 wherein R<sup>C</sup> is C(O)Pg<sup>C</sup> where Pg<sup>C</sup> is a protecting group for carboxylic acid.

120. (Previously Presented) A peptide mimetic as claimed in Claim 119 wherein  $\text{Pg}^{\text{C}}$  is selected from the group consisting of alkoxy, benzyloxy, allyloxy, fluorenylmethyloxy, amines forming easily removable amides, a cleavable linker to a solid support, the solid support, hydroxy, NHR, OR, R or the remaining C-terminal portion of the mimetic.
121. (Previously Presented) A peptide mimetic as claimed in Claim 113 wherein  $\text{Pg}^{\text{N}}$  is selected from a group consisting of Boc, Cbz, Alloc, trityl, a cleavable linker to a solid support, the solid support, hydrogen, R, C(O)R or part of the remaining N-terminal portion of the mimetic.
122. (Withdrawn) A peptide mimetic as claimed in Claim 113 wherein  $\text{M}'$  or  $\text{M}''$  is methoxy.
123. (Withdrawn) A peptide mimetic is claimed in Claim 113 wherein  $\text{M}'$  or  $\text{M}''$  is methyl.
124. (Previously Presented) A peptide mimetic as claimed in Claim 113 wherein Z is H,  $\text{Z}^1$  is H and  $\text{R}^{\text{C}}$  is  $\text{C}(\text{O})\text{Pg}^{\text{C}}$ .
125. (Withdrawn) A peptide mimetic as claimed in Claim 124 wherein  $\text{R}^1$  and  $\text{R}^2 \neq \text{H}$
126. (Previously Presented) A peptide mimetic as claimed in claim 113 wherein Z is hydrogen,  $\text{M}^5$  and  $\text{M}^6$  when taken together with the carbon atom to which they are attached form a carbonyl group,  $\text{Z}^1 = \text{H}$ , and  $\text{R}^{\text{C}}$  is  $\text{C}(\text{O})\text{Pg}^{\text{C}}$ .
127. (Withdrawn) A peptide mimetic as claimed in Claim 126 wherein  $\text{R}^1$  and  $\text{R}^2 \neq \text{H}$
128. (Withdrawn) A peptide mimetic as claimed in Claim 113 wherein  $\text{Q}^1$  is  $\text{R}^1$ ,  $\text{Q}^2$  is hydrogen,  $\text{Q}^3$  is  $-\text{C}(\text{O})\text{N}(\text{Q}^5)\text{CH}(\text{R})\text{C}(\text{O})-$ ,  $\text{Z}^1 = \text{H}$  and  $\text{R}^{\text{C}}$  is  $\text{C}(\text{O})\text{Pg}^{\text{C}}$ .

129. (Withdrawn) A peptide mimetic as claimed in Claim 113 wherein  $Q^1$  is  $R^1$ ,  $Q^2$  is hydrogen,  $Q^3$  is  $-C(O)N(Q^5)CH(R)CH_2-$ ,  $Z^1=H$  and  $R^C$  is  $C(O)Pg^C$ .

130. (Withdrawn) A peptide mimetic as claimed in Claim 114 wherein  $Q^1Q^2$  is  $-CH(R^2)C(O)-$ ,  $Q^3$  is  $C(O)$ ,  $Z^1=R^1$  and  $R^C$  is  $C(O)Pg^C$ .

131. (Withdrawn) A peptide mimetic as claimed in Claim 114 wherein  $Q^1Q^2$  is  $-CH(R^2)C(O)-$ ,  $Q^3$  is  $CH_2$ ,  $Z^1=R^1$  and  $R^C$  is  $C(O)Pg^C$ .

132. (Withdrawn) A peptide mimetic as claimed in Claim 114 wherein  $Q^1Q^2$  is  $-CH_2CH(R^2)C(O)-$ ,  $Q^3$  is  $C(O)$ ,  $Z^1=R^1$  and  $R^C$  is  $C(O)Pg^C$ .

133. (Withdrawn) A peptide mimetic as claimed in Claim 114 wherein  $Q^1Q^2$  is  $-CH_2CH(R^2)C(O)-$ ,  $Q^3$  is  $CH_2$ ,  $Z^1=R^1$  and  $R^C$  is  $C(O)Pg^C$ .

134. (Previously Presented) A peptide mimetic according to claim 113 wherein  $R$ ,  $R^1$  and  $R^2$  are each independently selected from the group consisting of

(i)  $-CH_3$ ,

(ii)  $-CH_2-\overset{\overset{O}{\parallel}}{C}-NH_2$  ,

(iii)  $-CH_2SH$ ,

(iv)  $-CH_2CH_2-C(O)NH_2$ ,

(v)  $-H$ ,

(vi)  $-CH(CH_3)CH_2CH_3$ ,

(vii)  $-CH_2-CH(CH_3)_2$ ,


(viii)  $-CH_2CH_2S-CH_3$ ,

(ix)  $-CH_2Ph$ ,

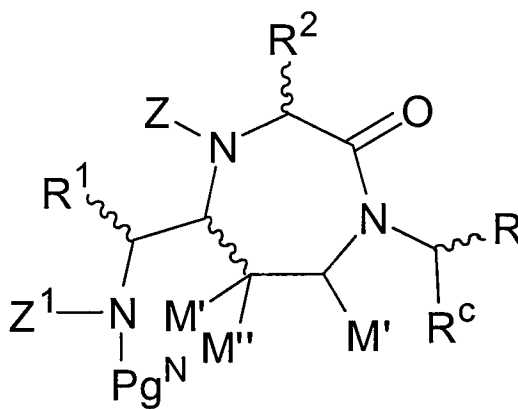
(x)  $-CH_2OH$ ,

(xi)  $-CH(OH)CH_3$ ,

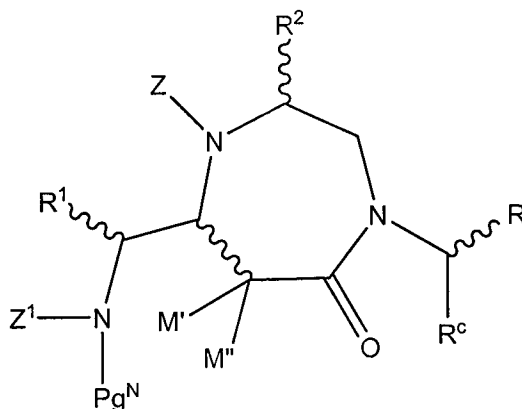
(xii)  $-CH_2-(3-indolyl)$

- (xvii)  , and

135. (Previously Presented) A mimetic according to claim 113 having the structure:



136. (Withdrawn) A mimetic according to claim 113 having the structure:



137. (Previously Presented) A peptide mimetic as claimed in claim 135 wherein M', M'' are H.

138. (Previously Presented) A peptide mimetic as claimed in claim 135 wherein Z, Z<sup>1</sup> are H.

139. (Withdrawn) A peptide mimetic as claimed in claim 135 wherein R<sup>1</sup> and R<sup>2</sup> ≠ H.

140. (Previously Presented) A peptide mimetic as claimed in claim 135 wherein R<sup>C</sup> is C(O)Pg<sup>C</sup> where Pg<sup>C</sup> is a protecting group for carboxylic acid.

141. (Withdrawn) A peptide mimetic as claimed in claim 136 wherein M', M'' are H.

142. (Withdrawn) A peptide mimetic as claimed in claim 136 wherein Z, Z<sup>1</sup> are H.

143. (Withdrawn) A peptide mimetic as claimed in claim 136 wherein R<sup>1</sup> and R<sup>2</sup> ≠ H.

144. (Withdrawn) A peptide mimetic as claimed in claim 136 wherein R<sup>C</sup> is C(O)Pg<sup>C</sup> where Pg<sup>C</sup> is a protecting group for carboxylic acid.



**CONCLUSION**

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 359-3261 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date: February 18, 2008

By Geoffrey K. Cooper  
Geoffrey K. Cooper  
Reg. No: 51,266

**CERTIFICATE UNDER 37 CFR 1.8:** The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 18<sup>th</sup> day of February 2008.

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